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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,647	11/21/2003	James F. Heathman	HES 2003-IP-011763U2	2361

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EXAMINER	
MARCANTONI, PAUL D	
ART UNIT	**PAPER NUMBER**
1755	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/719,647	HEATHMAN ET AL.	
	Examiner	Art Unit	
	Paul Marcantoni	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11.21/03 filing date*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

35 USC 103:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-48 are rejected under 35 USC 103(a) over FR 2085402 (abstract only), JP 54159443 (Shinoda et al.-abstract only), Eoff et al. ("High Temp. Synthetic cement retarder-abstract only), Zhao (abstract only), Nedelcu et al. (RO 111757-abstract only), CN 1410382 (abstract only), Barlet-Gouedard et al. '537 B1, Brothers '478 or '357 or '542 or '397, George '159, Rae et al. '778 B1 or '506 or 197, Eoff et al. '903, Dillenbeck et al. '652 B1, Guerro et al. '296, Totten et al. '580, Fry et al. '801 alone or in view of Childs et al. '832 or Mehta et al. '255.

FR 2085402 teaches a composition comprising lignosulfonate retarder which reads upon the claimed retarder and gel prevention agent of the instantly claimed invention (see abstract).

JP '443 (Shinoda et al.) teach a composition comprising polyacrylic acid that is a set retarder thus reads upon the claimed retarder and gel prevention agent of the instantly claimed invention (see abstract).

Eoff et al. (abstract) teach a cement retarder of AMPS-acrylic acid which reads upon applicants claimed retarder and gel prevention agent (see page 6, last line of applicants' specification).

Zhao (abstract) teaches an acrylic acid retarder reads upon the claimed retarder and gel prevention agent of the instantly claimed invention (see abstract).

Nedelcu et al. (RO '757) teach lignosulfonate waste as a retarder or set delay agent that reads upon the claimed retarder and gel prevention agent of the instantly claimed invention (see abstract- and second to last line of specification defining lignosulfonates as part of a gel prevention agent).

Zhou et al. (CN '382) teach lignosulfonate retarder that reads upon the claimed retarder and gel prevention agent of the instantly claimed invention (see abstract).

Barlet-Gouedard et al. '537 B1 teach a combination of retarding agents of methylene phosphonic acid and lignosulfonates (both also can be retarder or gel forming agent) as well as hydroxycarboxylic acid (note-itaconic acid is a hydroxycarboxylic acid-see claims).

Brothers '478 teaches a retarder that is a phosphonic acid that is both also an agent that "does not cause premature gelation" (see col.3, lines 33-35). Thus, Brothers retarder is both retarder and gel prevention agent.

Brothers et al. '357 teach a retarding agent comprising sodium pentaborate or potassium pentaborate (col.4 last paragraph) and a terpolymer of acrylic acid (gel prevention agent). It is expected that this composition would delay set of the cement composition for at least 24 hours because they meet the limitations of applicants' claimed invention of retarder and gel prevention agent.

Brothers '542 and '397 both teach a methylene phosphonic acid derivative retarder and fluid loss agents that are acrylic acid derivatives or acrylamides and there

derivatives. It would have been expected by one of ordinary skill in the art that these derivatives would also result in a delay setting of the cement slurry of at least 24 hours. Note that applicants' specification teaches acrylamide and/or acrylic acid derivatives as gel prevention agents. It is the examiner's position that because these fluid loss additives are also acrylamide or acrylic acid derivatives that they also would have been expected to function as gel prevention agents.

George '159 teach a retarder comprising a lignosulfonate (also meets limitation of gel prevention agent) and borate (see claim 1 in cols.7-8).

Rae et al. '778 B1 teach an additive to make a cement slurry storable over extended time periods comprising lignin sulfonates (retarder and gel preventer), DTPM or EDTM phosphonic acid (retarder), as well as their blends-(see col.5, lines 23-30). Rae et al. further teach that activators such as amines including triethanolamine and diethanolamine may be used (col.5, lines 40-42).

Rae et al. '506 B1 or '197 teach adding components to make a cement slurry storable over extended time periods including retarders of lignin sulfonate, phosphonate, and hydroxycarboxylic acid (ie itaconic acid) as well as their blends as set forth in claim 3 in column 20 for '506 B1 and col.4, lines 10-19 for '197. Rae et al. teach activators such as potassium chloride. It is the examiner's position that the use of another known and old activator such as sodium chloride would have been obvious to one of ordinary skill in the art and both are functionally equivalent. Applicants use another Group I metal chloride in sodium chloride which would have been expected to function in the same manner as an activator.

Eoff et al. '903 teach lignosulfonate retarder (also meets applicants defined gel prevention agent-col.7, lines 14-15) which would result in a delay set of at least 24 hours. Eoff et al. teach other retarders can even be added to his cement slurry (col.6, second to last line).

Dillenbeck et al. '652 B1 teach set retarders such as lignosulfonates (also a gel preventer), hydroxycarboxylic acids (also a gel preventer) and their blends as set forth in column 4, lines 35-43. Dillenbeck et al. teach the slurry can remain storable for even as long as four weeks without setting (col.6, lines 3-10). Dillenbeck et al. teach adding activators such as triethanolamine and calcium chloride (col.6, line 32).

Guerro et al. '296 teach acrylamide polymers (which can also be a gel preventer) and copolymers of acrylic acid (see claim 1 in col.4 and col.3, lines 38-39).

Totten et al. '580 teach set retarders including sodium tetraborate (col.4, lines67-68), acrylic acid copolymer retarder (col.6, lines 25-27), lignosulfonates in conjunction with borates or organic acids (ie itaconic acid is an example of an organic acid), etc. (see col.6, lines 46-68).

Fry et al. '801 teach a composition comprising a lignosulfonate which is stated to be a retarder but is also a gel prevention agent in accordance with the meaning defined by applicants' specification. Fry et al. further teach that a mixture of retarders can be made by including organic acid such as tartaric acid (col.6, last two lines of column). Tartaric acid is a hydroxycarboxylic acid just as itaconic acid is and the use of a specific hydroxycarboxylic acid as a retarder would have been an obvious design choice for one of ordinary skill in the art. Fry et al. also teach the addition of applicants' activators such

as sodium chloride and calcium chloride (col.6, lines 42-43). Note that the applicants "activators" are another word for "accelerators" which are notoriously known and understood by one of ordinary skill in the art. The use of an "activator" or accelerator to counteract the retarder would have been understood by one of ordinary skill in the art.

Finally, the secondary reference Childs et al. '832 teach that the use of methylene phosphonic acid derivatives as retarders are old in the art and it would have been an obvious design choice for one of ordinary skill in the art to use this retarder as a replacement or together with the different retarders of the primary references especially considering these retarders are routinely used in well cement/subterranean formations.

Mehta et al. '255 teach organic acids such as tartaric acid and citric acid (both known hydroxycarboxylic acids) are known in the art for well cements and cement slurries for controlling the viscosity of the cement slurry and "preventing the premature gelation of the slurry" (col.6, lines 50-57). One of ordinary skill in the art would have understood this to be the same as a gel prevention agent as claimed by applicants for their invention. Further, itaconic acid is also an organic acid and even a hydroxycarboxylic acid and thus its usage as a gel prevention agent for cement slurries would have been an obvious design choice for one of ordinary skill in the art.

Obviousness Type Double Patenting:

Claims 1-48 are provisionally rejected under obviousness type double patenting as unpatentable over Caveny et al. (US 2004/0262001 A1).

Caveny et al. teach a lignosulfonate retarder (page 4, first column) and itaconic acid as a further additive. The applicants' own specification even teaches that lignosulfonates and itaconic acid are "gel prevention agents". It is the examiner's position that the gel prevention agent can also be a retarder. While Caveny et al. do not appear to teach a cement composition to remain in a slurry state for 24 hours, it is the examiner's position that Caveny et al. teach all that is required for claim 1 which is a retarder and gel prevention agent which can be the same component. Should applicants argue that Caveny do not teach 24 hours, the applicants are reminded that it is improper to argue limitations they do not have in their own claims. For instance, it is improper to argue the limitations of the specification or dependent claims (ie borate or phosphonic acid or derivative as retarders) into the independent claim 1. Applicants must have the specific components that allow for the cement to remain in a slurry state for at least 24 hours.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

35 USC 112 First Paragraph:

Claims 1-48 are not commensurate in scope with applicants' enabling disclosure because they do not teach the specific retarder and gel prevention agents that lead to a cement remaining in a slurry state for at least 24 hours. The present status of claim 1 allows for any retarder (as defined by applicants) and gel prevention agent as possible components of the claimed invention. It appears that only specific components will result in this extended storage period in slurry state. Applicants do not have support for any or all retarders or gel prevention agents but only those that have shown to actually lead to a storage stable state of at least 24 hours in slurry form. Applicants must insert those retarders and gel forming agents that allow for this property of at least 24 hours storage stable in slurry form.

35 USC 112 Second Paragraph:

Claims 1-48 are rejected under the second paragraph of 35 USC 112 as failing to particularly point out and distinctly claim applicants' invention.

The applicants do not particularly point out and distinctly claim the specific set retarders and gel prevention agents that will allow for a storage stable cement composition that delays setting for at least 24 hours. The applicants do not define which retarders and gel prevention agents lead to this long delay set property.

The terms "retarder" and "gelation prevention agent" are not clearly mutually exclusive species in claim 1 and throughout the claims. Many of the references above show that a gelation prevention agent such as lignosulfonates (defined in applicants' specification on page 6, second to last line) are defined by many of the prior art

references above as a "retarder". Thus, these terms are vague because a gel prevention agent can also be a retarder and vice versa.

Claim 11 fails to further limit claim 1 because there is no antecedent basis for "the borate compound".

Deletion of the colons after the markush language "selected from group consisting of:" is advised for all claims, particularly claim 10, claim 39, or any other claim it occurs. The use of a colon after Markush language is not necessary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Marcantoni
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Art Unit 1755